

of solid or hardned froth, or a *congeries* of very small bubbles consolidated in that form, into a pretty stiff as well as tough concrete, and that each Cavern, Bubble, or Cell, is distinctly separate from any of the rest, without any kind of hole in the encompassing films, so that I could no more blow through a piece of this kinde of substance, then I could through a piece of Cork, or the sound pith of an Elder.

But though I could not with my *Microscope*, nor with my breath, nor any other way I have yet try'd, discover a passage out of one of those cavities into another, yet I cannot thence conclude, that therefore there are none such, by which the *Succus nutritivus*, or appropriate juices of Vegetables, may pass through them; for, in several of those Vegetables, whilst green, I have with my *Microscope*, plainly enough discover'd these Cells or Poles fill'd with juices, and by degrees sweating them out: as I have also observed in green Wood all those long *Microscopical* pores which appear in Charcoal perfectly empty of any thing but Air.

Now, though I have with great diligence endeavour'd to find whether there be any such thing in those *Microscopical* pores of Wood or Piths, as the *Valves* in the heart, veins, and other passages of Animals, that open and give passage to the contain'd fluid juices one way, and shut themselves, and impede the passage of such liquors back again, yet have I not hitherto been able to say any thing positive in it; though, me thinks, it seems very probable, that Nature has in these passages, as well as in those of Animal bodies, very many appropriated Instruments and contrivances, whereby to bring her designs and end to pass, which 'tis not improbable, but that some diligent Observer, if help'd with better *Microscopes*, may in time detect.

And that this may be so, seems with great probability to be argued from the strange *Phænomena* of sensitive Plants, wherein Nature seems to perform several Animal actions with the same *Schematism* or *Organization* that is common to all Vegetables, as may appear by some no less instructive then curious Observations that were made by divers Eminent Members of the *Royal Society* on some of these kind of Plants, whereof an account was delivered in to them by the most Ingenious and Excellent *Physician*, Doctor *Clark*, which, having that liberty granted me by that most Illustrious Society, I have hereunto adjoyn'd.

Observations on the Humble and Sensible Plants in M^r Chiffin's Garden in Saint James's Park, made August the 9th 1661. Present, the Lord Brouncker, Sr. Robert Moray, Dr. Wilkins, Mr. Evelyn, Dr. Henshaw, and Dr. Clark.

There are four Plants, two of which are little shrub Plants, with a little short stock, about an Inch above the ground, from whence are spread several sticky branches, round, streight, and smooth,

smooth in the distances between the Sprouts, but just under the Sprouts there are two sharp thorny prickles, broad in the setting on, as in the Bramble, one just under the Sprout, the other on the opposite side of the branch.

The distances betwixt the Sprouts are usually something more then an Inch, and many upon a Branch, according to its length, and they grew so, that if the lower Sprout be on the left side of the Branch, the next above is on the right, and so to the end, not sprouting by pairs. See Schem. 11. Fig. 2.

At the end of each Sprout are generally four sprigs, two at the Extremity, and one on each side, just under it. At the first sprouting of these from the Branch to the Sprig where the leaves grow, they are full of little short white hairs, which wear off as the leaves grow, and then they are smooth as the Branch.

Upon each of these sprigs, are, for the most part, eleven pair of leaves, neatly set into the uppermost part of the little sprig, exactly one against another, as it were in little *articulations*, such as Anatomists call *Enarthrosis*, where the round head of a Bone is received into another fitted for its motion; and standing very fitly to shut themselves and touch, the pairs just above them closing somewhat upon them, as in the shut sprig; so is the little round *Pedunculus* of this leaf fitted into a little cavity of the sprig, visible to the eye in a sprig new pluck'd, or in a sprig withered on the Branch, from which the leaves easily fall by touching.

The leaf being almost an oblong square, and set into the *Pedunculus*, at one of the lower corners, receiveth from that not onely a *Spine*, as I may call it, which, passing through the leaf, divides it so length-ways that the outer-side is broader then the inner next the sprig, but little *fibres* passing obliquely towards the opposite broader side, seem to make it here a little muscular, and fitted to move the whole leaf, which, together with the whole sprig, are set full with little short whitish hairs.

One